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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/509,164	09/27/2004	Derek W. Mackney	3076R-01	5093

7590 01/28/2010

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EXAMINER	
MCAVOY, ELLEN M	
ART UNIT	PAPER NUMBER
1797	

MAIL DATE	DELIVERY MODE
01/28/2010	PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary	Application No.	Applicant(s)	
	10/509,164	MACKNEY ET AL.	
	Examiner	Art Unit	
	Ellen M. McAvoy	1797	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *3* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *14 December 2009*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1,3,8,10,12-14 and 17-21* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1,3,8,10,12-14 and 17-21* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicants' submission filed on 14 December 2009 has been entered.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

Claims 1, 3, 8, 10 and 12-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherpeck (5,916,825) in combination with Nakazato et al (6,569,818).

Cherpeck discloses polyisobutanyl succinimides and derivatives thereof as additives in gasoline and diesel fuel compositions to prevent and control engine deposits. The succinimides are represented by the formula in column 2, lines 30-38, wherein substituent R_1 is a polyisobutanyl group derived from a highly reactive polyisobutene and having an average molecular weight in the range of about 500 to 5,000. Cherpeck teaches that the highly reactive polyisobutene refers to a polyisobutene wherein greater than 70% of the residual olefinic double bonds are of the vinylidene type. See column 3, lines 41-50. Cherpeck teaches that such compounds may be prepared by reacting a polyisobutanyl succinic anhydride with a suitable

polyamine including polyethylene polyamines. See column 4, line 55 to column 5, line 35. The examiner is of the position that the succinimide component of Cherpeck meets the limitation of component (A)(i) of the claims. Cherpeck also allows for the addition of conventional fuel additives to the composition including oxygenates, other dispersants/detergents including hydrocarbyl amines, hydrocarbyl poly(oxyalkylene) amines, hydrocarbyl poly(oxyalkylene) aminocarbamates, succinimides and Mannich bases. See column 6, lines 16-28. Applicants' invention differs in independent claim 1 by requiring that the engine have an exhaust treatment device, and that the lubricating oil circulated within the engine have all of the properties of low phosphorus, low sulfur and low sulfated ash content; and in dependent claim 12 that the fuel in the fuel composition have a sulfur content below about 80 ppm by weight. However, as evidenced by Nakazato et al, ["Nakazato"], such characteristics are well-known in the art.

Nakazato discloses a lubricating oil composition suitable for use in internal combustion engines, such as diesel engines and gasoline engines, wherein the composition has a sulfur content of 0.01 to 0.3 wt.%, a phosphorus content of 0.01 to 0.1 wt.%, and giving a sulfated ash content in the range of 0.1 to 1 wt.%. Nakazato also discloses that the lubricating oil composition may be used in motor vehicles using low sulfur hydrocarbon fuels (0.01 wt.% or less), particularly diesel engine-mounted vehicles to which exhaust gas-cleaning devices containing particulate filters are attached. See column 3, lines 42-60. Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have followed the teachings of the art and to have used the fuel composition of Cherpeck in combination with the low phosphorus content, low sulfur content and low sulfated ash content lubricating oil composition of Nakazato if the known imparted properties were so desired. The

examiner is of the position that the combination of familiar elements according to known methods is likely obvious when the combination does no more than yield predictable results. *KSR*, 127 S.Ct. at 1739, 82 USPQ2d at 1395. And the examiner is of the position that all that is required for obviousness under 35 U.S.C. §103 is a reasonable expectation of success. *O'Farrell,* 853 F.2d 894, 904, 7 USPQ2d 1673, 1681 (Fed. Cir. 1988).

Claim Rejections - 35 USC § 103

Claims 17-21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cherpeck (5,916,825) in combination with Nakazato et al (6,569,818), in further combination with Moreton et al (6,514,297) and Pierce-Ruhland et al (5,407,453).

Cherpeck in combination with Nakazato is relied on as outlined above.

Moreton et al ["Moreton"] disclose a detergent suitable for use in hydrocarbon fuels, such as gasoline fuels and diesel fuels, comprising mixing (1) a Mannich reaction product made by reacting a polyisobutene phenol, an aldehyde, and ethylene diamine, and (2) a compound selected from alkylbenzene sulfonic acid, alkylnaphthalene sulfonic acids, acetylacetone and mixtures thereof. The examiner is of the position that the Mannich products of Moreton meet the limitations of the detergent additive of dependent claim 18 when it is component (C), a Mannich reaction product of a hydrocarbyl-substituted hydroxy-containing aromatic compound, an aldehyde and an amine. Moreton also allows for the addition of dispersants to the fuel compositions including a PIB (polyisobutylene) polyamines which still meets the limitation of component (B)(i) and (D) of the claims. Pierce-Ruhland is added to teach that hydrocarbyl-substituted amine detergents may prepared by the reaction product of a chlorinated

polyisobutylene, a polyamine and a base. Applicants teach in the specification on page 9 that Pierce-Ruhland meets the limitations of the claims for component (B)(i).

Thus having the prior art references before the inventors at the time the invention was made it would have been obvious to have added conventional fuel additives to the fuel composition of Cherpeck if their known imparted properties were so desired.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ellen M. McAvoy whose telephone number is (571) 272-1451. The examiner can normally be reached on M-F (7:30-5:00) with alt. Fridays off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on (571) 272-1444. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would

like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ellen M McAvoy/
Primary Examiner
Art Unit 1797

EMcAvoy
January 25, 2010